

The Automobile Speaks

It tells you what it is, what it requires and it asks to be treated fairly.

By Frederick C. Guerrlich.

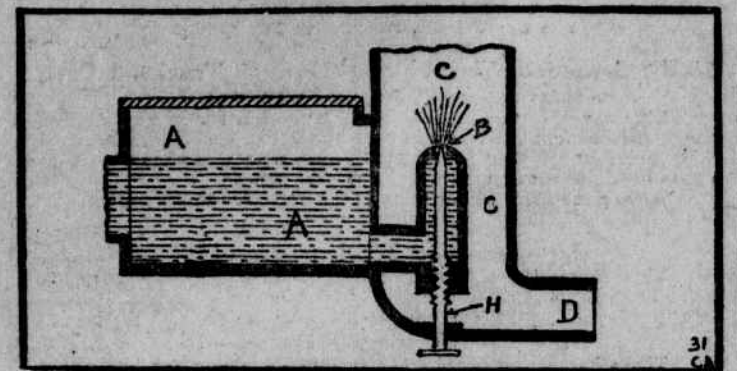
Number 31.
THE CARBURETER (Continued).

I have told you of the simple chemical and physical laws and actions upon which the action of my carbureter is based. Now let me tell you how they are utilized in an actual carbureter.

Suppose we had a tank or chamber, as "A" in the illustration, partly filled with a liquid, and to this chamber had a tube or nozzle, "B," connected, the opening of which nozzle was about 1-32 of an inch above the level of the liquid. Now let us further suppose that in some way we can make the pressure of the air on top of the liquid in chamber "A" greater than that on the liquid at the opening of the nozzle.

What would happen under the above circumstances? Why, the liquid would squirt or spray out of the nozzle.

Upon the above action the design of practically all of the present day carbureters is based. I beg the reader, therefore, to clearly understand the



above, as a knowledge of these "theories" will help him much in trouble locating and in getting the most power out of his engine.

Let us make a few observations upon what will affect the quantity or speed of flow of the liquid sprayed.

Naturally the difference of the pressure in the chamber "A" and on top of the liquid in the nozzle will affect this. The greater this difference the greater the spray.

The height of the mouth of the nozzle above the level of the liquid will affect it. Why? Because if the nozzle's mouth were, say, one inch above the level, one inch of liquid would first have to be lifted, and the friction of the nozzle walls would have to be overcome so that the difference in pressure would really be reduced.

The size of the opening or mouth of the nozzle will affect the quantity or amount of liquid sprayed. The smaller the opening the smaller the amount of spray.

Of course, in the carbureter, the liquid is the gasoline, the chamber "A" the supply or, as it is called, "float chamber," and the chamber above the nozzle, called the mixing chamber, is connected to the inlet manifold, or piping of the engine.

Let us see how we can get a difference in pressure, on top of the gasoline in the float chamber "A," and that in the nozzle "B." We know that on the suction stroke of the engine a vacuum (a pressure less than atmospheric) is created, and this vacuum will extend through the inlet valve to the manifold, and then to the carbureter mixing chamber, and so the nozzle "B" will be in a vacuum.

The float chamber liquid is, however, under atmospheric pressure, and thus there is a greater pressure on top of the liquid in the float chamber "A" than on that in the nozzle, so that the gasoline will squirt out of the nozzle, or because of the small opening, spray out.

You will notice that the chamber "C" is also open to the atmosphere at "D," so that on the suction stroke air will rush in through this opening, then through the manifold to the cylinder. As this rushing air passes the nozzle it will pick up the spraying gasoline and carry it to the cylinder. On the way, due to the vacuum and temperature (which in the summer time will be about 70 degrees), the gasoline will change to a gas. It will also be thoroughly mixed with the air. Thus an explosive mixture of gas and air enters the cylinders.

In most carbureters the opening "D," through which the air passes, is never changed. The gas and air, however, must be in a certain ratio or proportion, and there must, therefore, be some way of varying or regulating this proportion. The air being constant or not changeable, we must change the quantity of the gasoline sprayed. How? You will note above, where those things which will affect the spray is given, that the size of the opening of the nozzle will cause a change in quantity. This opening can be easily changed by screwing a pointed needle into or out of the mouth of the nozzle.

By referring to the drawing you will note that where the needle "H" screwed up as far as it will go the mouth of the nozzle would be entirely closed, while for each turn downward the opening is less obstructed, until finally it would be entirely clear. Thus, when the needle "H" is screwed down more gasoline is in the mixture and it becomes richer, while if it is screwed up the proportion of gasoline is less and the mixture becomes weaker or leaner.

STEPHENS SIX NOW IN NEW SALESROOM

"The Stephens Salient Six," the well known product of the Moline Plow Company, has opened its new showrooms in the Circle Building at 1536 Broadway, under the direction of Mr. Meyer. The

removal was very opportunely timed, because the Stephens Motor Works have just announced their new models, together with a remarkable reduction in price, ranging from \$880 on the roadster to \$965 on the closed models.

The Alfred E. Higgins Automobile Company has fitted up its new salesroom with every convenience for the comfort of customers.

A New Business Cycle Predicted

"We are about to enter a new business cycle," says Edward S. Jordan, president of the Jordan Motor Car Company.

"The most far sighted business men know, however," says Mr. Jordan, "that it will require possibly six months of further favorable readjustment before the mass of people realize what has happened.

"Business in all lines will gradually improve as the public come to realize the extent to which production has been curtailed and the extent to which price cutting has been carried in many lines.

"Some prices will be further readjusted and all prices will level out in such a way that merchandise can be exchanged on a fair basis.

"Already certain prices are showing a tendency to rise. Keen business men know that nothing will start a buying movement so quickly as rising prices.

"Yet it will take some months for the mass of people to realize what is going on.

"Therefore the experience in the great cotton industry will in a measure be repeated in every industry producing a great necessity.

"The silk men felt the change first. Production was curtailed. The depression was critical. Now their mills are running at capacity. Next the woolen men felt it. And now cotton has come back. The South is already feeling the effect of rising prices of its great staple.

"These things happen because 110,000,000 people in the United States and more millions in foreign countries need certain things. When curtailment of production reaches a certain point the demand turns the other way. Then the buying movement starts.

"Pessimism will still prevail, especially with smoking room oracles, until after the 1st of January. Only the most far sighted will realize that it is desirable to accumulate low priced materials. Only the minority during the next few months will have the foresight to prepare.

"In short, if everybody had foresight there would never be any depression, never any bottom—just a normal progress all the time. The very fact that this pessimism will continue in a measure through the winter will justify the prediction which is being made in every letter which goes out from this office.

"And that prediction is, 'That a shortage of good motor cars will exist before March 15, 1922.'

"If I thought that every one would act upon this prediction it would not be justified. The very fact that the mass of it ill timed and not justified will create the very condition which we anticipate."

"Every month sees a new record of some kind for the Reo Speed Wagon," says George Stowe, general manager of the Reo Motor Car Company of New York. Now come the statistics of exportation. The month of August, which have just been released, and these show that 60 per cent of all trucks shipped from the United States into the Dominion were Reo Speed Wagons. That the demand for the Reo product was unprecedented is evidenced by the fact that Canadian exports in August increased 150 per cent over the same period of 1920.

"Missing Plug." In cases where a spark plug is missing because of its sooted condition and no replacement is available, the condition can be overcome by disconnecting the spark plug lead and installing an auxiliary gap of an eighth or a quarter of an inch between it and the plug terminal.

Auto Row Close Ups

By B. S. B.

John Seward of Nutley, N. J., has a Franklin of the vintage of 1907. It is still in daily operation and recently Seward drove it to Washington and gave the residents there a treat.

With several friends Seward was discussing old cars. One of them said:

"I was looking over Bill Smith's car the other day and found that the engine cranked on the side. That's some old baby."

Then another member of the party spoke up.

"That's nothing," he said. "I was looking over Seward's old Franklin the other day and found a whip socket in it."

"Ted" Sherwood asked us to get behind the wheel and try out the new Jordan that came to town last week. There is no doubt about this car having speed and pulling power on hills. Although it is pretty rough on the old Harlem River Speedway we had no difficulty in getting her up to 60," and it was remarkable how smoothly and comfortably she took the rough going. There is no "throw" to the springs.

Next we tackled Fort George hill. It was easy to go over the top at twenty-five miles an hour in high gear. On Abbey hill it was a joy ride all the way up from five miles an hour at the bottom to thirty-five miles an hour at the top.

Slowed down in high gear in traffic the car moved much slower than the pedestrians on the sidewalk.

It was our good fortune too, last week, to try out the Daniels Eight on hills. The idea was to see not how fast she would make some well known hills in high gear but how slow. One of the severest tests in New York is the 177th street hill running from Riverside Drive to Haven avenue. It is a rough dirt road with two sweeping turns in it. The Daniels in high gear made the ascent at eight miles an hour all the way. It went up Fort George hill and the Dyckman street forty hill at eight miles an hour all the way.

We rolled half way down Fort George hill, then turned in high gear and went over the top at twenty-five miles an hour. This was a splendid demonstration of pulling power and quick acceleration on severe grade.

The Daniels Eight engine is unusual in that its cylinders are set at a 60 degree angle. It was the first engine to depart from the 90 degree angle be-

tween cylinders. After two years experience in building this engine the Daniels people have found that it not only eliminates the so-called "dead center," but also all cross vibration.

All the latest Dorr cars are equipped with an unusual device called the distillator. In this remarkable piece of mechanism all unvaporized fuel is wrapped and returned to a central reservoir where it is distilled by heat into a thoroughly combustible gas.

This prevents liquid fuel from getting into the cylinders and causing such common troubles as carbon in the combustion chamber, fouled spark plugs, and most serious of all, being forced past the piston rings into the crank case, thinning and "cutting" the oil and unfitting it for lubrication.

So far as is known no automobile has ever equalled the record of the Wills Sainte Claire car in covering the distance between Detroit and New York in 20 hours and 25 minutes, a feat accomplished on August 17.

This remarkable exhibition of speed, stamina and roadability has naturally attracted countrywide attention to the new car manufactured at Marysville, Mich., and which is the realization of the long cherished ideal of its designer and maker, C. Harold Wills. But while the performance of the car has stirred motordom its Detroit-New York run has also served to turn the spotlight on Mr. Wills, for it was he who drove the car.

Mr. Wills, although indifferently identified with the motor car industry since its early beginnings, is not and never has been a professional driver or stunt performer. He is a distinguished automotive engineer, metallurgist, inventor and industrial innovator of international reputation. The role he played August 17 when he drove the car he created in a record breaking cross country flight over indifferent roads and a route he had never before covered is one with which he had not previously been identified, and is one also he is not likely to play frequently.—Motor Travel.

The Rowland Advertising Company, Inc., which handles numerous automobile advertising accounts, has removed from the Grand Central Palace to the Flak Building, Broadway at Fifty-seventh street, New York.

Based on the false idea that motor vehicles are luxuries our people have been heavily overtaxed. Last year we paid taxes individual to our own industry of more than \$136,000,000, including taxes on sales, registering cars and drivers, gasoline, wheel taxes and similar imposts.

ESSEX ANNOUNCES A NEW PRICE CUT

"Keen interest is awakened in the new prices just announced by Essex Motors," says Harry Houtt, "which mark an extreme reduction of \$600 on open models since September, 1920, and of \$250 since last June.

"The new prices, the company makes known, reflect advantages taken of the present mood of antipathy to market conditions for next year. On open models the present price is \$180 lower than the Essex has ever sold for. Total reductions of as much as \$705 occur on some closed models.

"Of added interest to the buyer is that these new lower prices apply to a new and improved Essex. The new car retains all of the advantages of its predecessor. In many ways it has been enhanced in qualities that count for smoother operation, greater reliability and freedom from service attention."

REO SPEED WAGONS IN DEMAND NOW

"Every month sees a new record of some kind for the Reo Speed Wagon," says George Stowe, general manager of the Reo Motor Car Company of New York. Now come the statistics of exportation. The month of August, which have just been released, and these show that 60 per cent of all trucks shipped from the United States into the Dominion were Reo Speed Wagons. That the demand for the Reo product was unprecedented is evidenced by the fact that Canadian exports in August increased 150 per cent over the same period of 1920.

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NEW LICENSING PLAN HAS ADVANTAGES

Assignment of Distinctive Numbers to New York City a Good Thing.

ALBANY, Oct. 22.—New York city has been assigned 243,000 automobile license plates for passenger cars for 1922, numbered from 1,000 to 48-999, and from 500-501 to 790-509, according to an announcement made today by the State Tax Commission. With this information in mind, police, State troopers or others interested can tell at a glance that any car carrying any of these numbers next year was registered from New York city.

This assignment of distinctive numbers to New York city is in accordance with the new method of distribution devised by the Tax Commission, whereby each county of the State will have its special series, making easy immediate identification of the source of registry of any car. The commission believes this will be of some assistance in locating stolen cars and identifying violators of the highway or local traffic laws and regulations. Police and State troopers will be supplied with full information as to the distribution by the commission.

Next year commercial vehicle licenses in this State will be numbered 800-000 to 966-000, of which New York city will have the last 65,000. Omnibus licenses will run from 0-50000 to 0-65550, and the trailer licenses from 892-000 to 997-250, New York being assigned 0-71351 to 0-86550, and 996-851 to 997-350 respectively. Eleven thousand motorcycle numbers have been assigned to the metropolis, running from 22326 to 33825.

The first 2,000 passenger car numbers have been reserved for State owned cars.

Aside from this, it is announced, there will be no so-called low numbers reserved for special distribution as in the past, and the letter series, developed in the last few years in order to make possible additional low numbers also will be done away with. Dealers' plates will be taken from the numbers running from 2-001 to 4-999.

In New York city the plates will be distributed as usual from the New York office of the Automobile Bureau. This also applies to Albany and Erie counties, which have offices of the Automobile Bureau. County clerks will make the distribution in all the other counties in the State. Plates will be sent out from Albany in time to be distributed after November 15, but may not be used on cars before January 1, 1922.

POERTNER OFFERS A USED CAR SUGGESTION

A suggestion that is bound to have an important bearing on what is known as the "used car problem" is offered by William C. Poertner. His thought is contained in three words, "Keep your car," and this advice, if generally followed, would make for better conditions for the public, as well as for the motor car industry.

Mr. Poertner, who heads the company that has the metropolitan distribution for National, Durant and Scripps Booth cars, says: "It all comes back to a matter of wrong education of the motoring public, because, as he phrases it, 'The car is not a thing to be bought and sold, it is a thing to be used.'"

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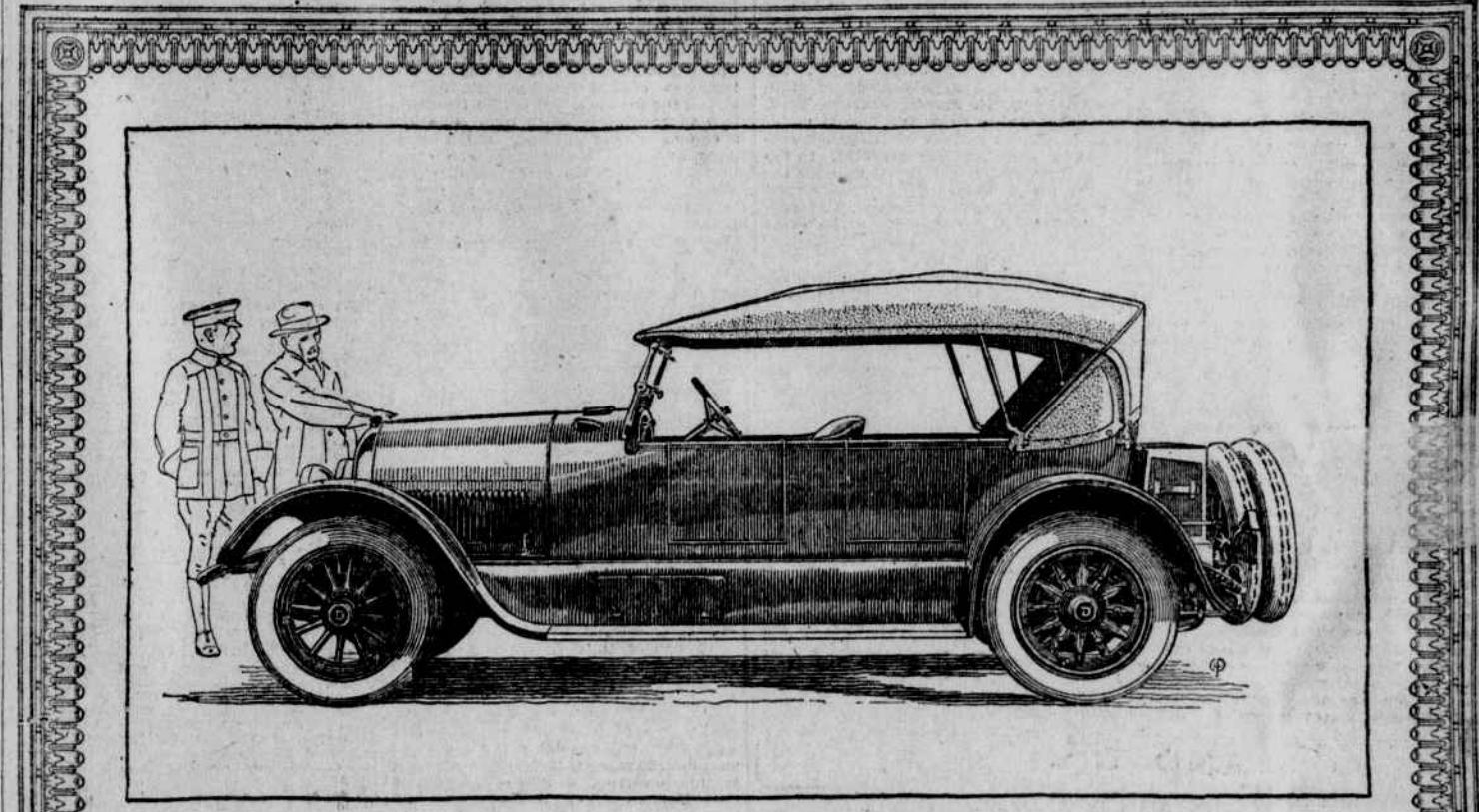
EXPERTS IMPRESSED BY THIS NEW AUTO LOCK

The automobile thieving problem will undoubtedly be solved by a new device, called the Key-Kard automobile lock, which is the invention of Joseph Billings of Brooklyn. Notwithstanding the numerous locking devices on the market to prevent the theft of cars the evil still continues. While the prices of cars are being reduced, insurance rates, due to heavy losses sustained, remain high, with a possibility of going still higher. The Key-Kard Corporation is demonstrating its new device to automobile insurance and automobile business men. For the last week the Key-Kard was shown in several tests on the city streets to automotive engineers and other experts, all of whom are of the unanimous opinion after a thorough examination, that it is "thief proof," for the reason that it locks the ignition and hood simultaneously, without the possibility of the owner leaving the key exposed.

AN UNUSUAL EXHIBIT OF SPECIAL PACKARDS

An unusual exhibit of fine custom body cars will be held this week at the Packard show rooms, Sixty-first street and Broadway. On display are some of the finest examples of American coach design and craftsmanship, built by the foremost coach builders of America and mounted on Twin Six chassis. Among the cars exhibited are an inside drive limousine by Holbrook, inside drive sedan by Derham, four passenger touring car by Fleetwood, cabriolet de luxe by Demaree, limousine brought in by Fernham-Nelson, coupe by Derham landaulet by Holbrook and runabout by Fleetwood.

"These custom built cars," says Mr. F. B. Sullivan, New York carriage sales manager, "are the result of a decade and more of specialization in custom body work in cooperation with America's oldest and most famous coach builders. They are now offered for the critical inspection of those who demand distinctive design and flawless craftsmanship in their motor cars."



Underneath the Lustre and Beauty

The FOUR-PASSENGER TOURING

The Daniels is not built for mere seasonal style, but for permanent beauty and reliability. In each body type there is a simple correctness influenced by European taste. This all-purpose car was built for Mr. Eugene Greenhut, New York broker, and is priced \$6100, fully equipped, delivered New York. \$5,850 without extras.

THE same engineer who designed a famous Italian engine, one of the best four-cylinder engines ever produced, designed the new Daniels motor. It is a wonderfully powerful engine—8-cylinder, V-type—which responds to every possible demand.

For over two years it has been subjected to rigid tests under scrutiny without a single weakness developing. It is one of the big reasons for the Daniels reputation as the aristocrat of American cars. It is every bit as distinctive as our body designs.

The angle of the cylinders—being less than 90°—assures perfect smoothness, speed, and heavy pulling power.

Chrome nickel steel—the toughest, finest obtainable—is used in the Daniels frame, crank shaft, and other vital parts. Specially forged steel fly wheel and the use of beveled spiral gears are further examples of mechanical excellence.

Mr. N. E. Parish, Vice-President of the Daniels Motor Company, in charge of production, has been well known in steel circles for many years and is the originator of the present day high grade heat treated alloy steel frames.

From these facts it is evident that underneath the lustre and beauty of the Daniels is a sturdy mechanical excellence that insures both safety and reliability at all times.

Manufacturers: DANIELS MOTOR COMPANY, Reading, Pa.

Distributors: THE A. ELLIOTT RANNEY COMPANY

244 West 59th Street, New York

DANIELS

D Eight

NEW YORK SHOW ROOMS:
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We can show a few examples of recent coach work, together with the powerful new motor at our New York Show Rooms

Sit up Straight on the Avenue

or lounge on the country road. The name "Touring Limousine" was given to this enclosed Mercer because it is

A Limousine—luxurious, dignified, beautiful.

A Touring Car in every sense of comfort, power, speed.

A Sedan when you lower the partition that separates driver's seat from tonneau seat.

Side windows open all the way. Mercer prices are attractive.

TOURING	-\$3950
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RUNABOUT	-\$3950
RACEABOUT	-\$3950
TOURING LIMOUSINE	\$2500
COUPE	-\$4850

Prices F. O. B. Trenton, N. J.

Two Extra Tires and Tubes Included in Standard Equipment

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1802 Broadway, New York
352 Central Avenue, Newark, N. J.

Manufactured by
Mercer Motors Company, Trenton, New Jersey

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F. O. B. MOLINE

The Velie Quality Six At the Price of a Four

CONSIDER the overwhelming verdict of the motoring public in favor of the Six. What the Six has proved in steady, vibrationless power—easy control—comfortable riding—fuel and tire saving—long life and low upkeep of the entire car. The supremacy of the Six is undisputed.

Ever since the advent of the Six, Velie engineering has been concentrated on its highest development. Today Velie is building Sixes second to none.

Now comes an added advantage worthy to mark a new chapter in motordom—the Velie Quality Six is priced as low as many fours.

What this quality means is constantly demonstrated by Velie victories—in conquering the Grand Canyon—in mountain climbing—in endurance runs—in economy tests.

Model 34 is the outstanding car of the present Velie line. "The greatest car Velie ever built"—the envied car in any company. Furnished in several new color combinations—in different leathers and nickel trimmings—giving you a car of individuality and distinction—a car apart from the monotonous sameness of the ordinary.

You would search the market over to find a value to match this. See what Velie gives you for your car money before you buy; eight body styles on two sizes of chassis: Touring cars, Sedans, Coupes, Roadsters.

"Some Day You Will Drive a Velie"

Garland Automobile Company
1888 Broadway, at 62d Street, New York. Tel. Col. 5596

Bronx Branch, 2402 Concourse. Albany Branch, 348 Broadway
Long Island City Branch, 90 6th Ave.

BROOKLYN, N. Y. Kunkel Auto Co., 1378 Bedford Ave. NEWARK, N. J. J. W. Mason, 1005 Broad St.